

## CLAIMS

1. An electronic document processing apparatus for processing an electronic document, comprising:

document inputting means fed with an electronic document; and  
speech read-out data generating means for generating speech read-out data  
for reading out by a speech synthesizer based on said electronic document.

2. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds the tag information necessary for reading out in said speech synthesizer to said electronic document.

3. The electronic document processing apparatus according to claim 1 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

4. The electronic document processing apparatus according to claim 3 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said speech read-out data generating means discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

5. The electronic document processing apparatus according to claim 3 wherein the

tag information necessary for reading out by said speech synthesizer is added to said electronic document.

6. The electronic document processing apparatus according to claim 5 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information for inhibiting the reading out.

7. The electronic document processing apparatus according to claim 5 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.

8. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.

9. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences and phrases making up the electronic document to generate said speech read-out data.

10. The electronic document processing apparatus according to claim 9 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating means unifies said attribute information appearing in succession into

one attribute information.

11. The electronic document processing apparatus according to claim 9 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying pause periods in association with the attribute information specifying the beginning positions of the paragraphs, sentences and phrases to generate said speech read-out data.

12. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying a read-out inhibited portion to generate said speech read-out data.

13. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the correct reading or pronunciation to generate said speech read-out data.

14. The electronic document processing apparatus according to claim 1 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the read-out sound volume to generate said speech read-out data.

15. The electronic document processing apparatus according to claim 1 further comprising:

processing means for performing the processing suited to a speech synthesizer

using said speech read-out data;

    said processing means selecting the speech synthesizer based on the attribute information added to said speech read-out data for indicating the language with which said electronic document is formed.

16. The electronic document processing apparatus according to claim 1 further comprising:

    processing means for performing the processing suited to a speech synthesizer using said speech read-out data;

    said processing means finding the absolute read-out sound volume based on the attribute information added to said speech read-out data indicating the read-out sound volume.

17. The electronic document processing apparatus according to claim 1 further comprising:

    document read-out means for reading said electronic document out based on said speech read-out data.

18. The electronic document processing apparatus according to claim 17 wherein said document read-out means locates in terms of paragraphs, sentences and phrases making up said electronic document as unit, based on the attribute information indicating the beginning positions of said paragraphs, sentences and phrases among plural elements.

19. An electronic document processing method for processing an electronic

document, comprising:

- a document inputting step fed with an electronic document; and
  - a speech read-out data generating step of generating speech read-out data for reading out by a speech synthesizer based on said electronic document.
20. The electronic document processing method according to claim 19 wherein said speech read-out data generating step adds the tag information necessary for reading out in said speech synthesizer to said electronic document.
21. The electronic document processing method according to claim 19 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.
22. The electronic document processing method according to claim 21 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and
- wherein said speech read-out data generating step discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.
23. The electronic document processing method according to claim 21 wherein the tag information necessary for reading out by said speech synthesizer is added to said electronic document.

24. The electronic document processing method according to claim 23 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information for inhibiting the reading out.
25. The electronic document processing method according to claim 23 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.
26. The electronic document processing method according to claim 19 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.
27. The electronic document processing method according to claim 19 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences and phrases making up the electronic document to generate said speech read-out data.
28. The electronic document processing method according to claim 27 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating step unifies said attribute information appearing in succession into one attribute information.
29. The electronic document processing method according to claim 27 wherein

said speech read-out data generating step adds to said electronic document the attribute information specifying pause periods in association with the attribute information specifying the beginning positions of the paragraphs, sentences and phrases to generate said speech read-out data.

30. The electronic document processing method according to claim 19 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying a read-out inhibited portion to generate said speech read-out data.

31. The electronic document processing method according to claim 19 wherein  
said speech read-out data generating step adds to said electronic document the attribute information specifying the correct reading or pronunciation to generate said speech read-out data.

32. The electronic document processing method according to claim 19 wherein  
said speech read-out data generating step adds to said electronic document the attribute information specifying the read-out sound volume to generate said speech read-out data.

33. The electronic document processing method according to claim 19 further comprising:

a processing step of performing the processing suited to a speech synthesizer using said speech read-out data;

said processing step selecting the speech synthesizer based on the attribute

information added to said speech read-out data for indicating the language with which said electronic document is formed.

34. The electronic document processing method according to claim 19 further comprising:

a processing step of performing the processing suited to a speech synthesizer using said speech read-out data;

said processing step finding the absolute read-out sound volume based on the attribute information added to said speech read-out data indicating the read-out sound volume.

35. The electronic document processing method according to claim 19 further comprising:

a document read-out step of reading said electronic document out based on said speech read-out data.

36. The electronic document processing method according to claim 35 wherein said document read-out step locates in terms of paragraphs, sentences and phrases as unit, based on the attribute information indicating the beginning positions of said paragraphs, sentences and phrases among plural elements making up said electronic document.

37. A recording medium having recorded thereon a computer-controllable electronic document processing program for processing an electronic document, said program comprising:

a document inputting step of being fed with an electronic document; and  
a speech read-out data generating step of generating speech read-out data for  
reading out by a speech synthesizer based on said electronic document.

38. An electronic document processing apparatus for processing an electronic  
document, comprising:

document inputting means for being fed with said electronic document of a  
hierarchical structure having a plurality of elements and to which is added the tag  
information indicating the inner structure of said electronic document; and

document read-out means for speech-synthesizing and reading out said  
electronic document based on said tag information.

39. The electronic document processing apparatus according to claim 38 wherein  
the electronic document, added with the tag information indicating at least  
paragraphs, sentences and phrases, among a plurality of elements making up the  
electronic document, is input to said document inputting means; and

wherein said document read-out means reads said electronic document out by  
providing pause periods at the beginning positions of said paragraphs, sentences and  
phrases, based on the tag information specifying said paragraphs, sentences and  
phrases.

40. The electronic document processing apparatus according to claim 38 wherein the  
tag information indicating at least paragraphs, sentences and phrases, among a  
plurality of elements making up the electronic document, is added to the electronic

document; and

wherein said document read-out means discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

41. The electronic document processing apparatus according to claim 38 wherein the tag information necessary for reading out by said document read-out means is added to said electronic document.

42. The electronic document processing apparatus according to claim 41 wherein the tag information necessary for reading out by said document read-out means includes the attribute information for inhibiting the reading out.

43. The electronic document processing apparatus according to claim 41 wherein the tag information necessary for reading out by said document read-out means includes the attribute information indicating the pronunciation.

44. The electronic document processing apparatus according to claim 38 wherein said document read-out means reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

45. The electronic document processing apparatus according to claim 38 wherein said document read-out means reads out said electronic document with substitution by correct reading or pronunciation.

46. The electronic document processing apparatus according to claim 38 wherein said document read-out means locates in terms of said paragraph, sentence and

phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

47. An electronic document processing method for processing an electronic document, comprising:

a document inputting step of being fed with said electronic document of a hierarchical structure having a plurality of elements and to which is added the tag information indicating the inner structure of said electronic document; and

a document read-out step of speech-synthesizing and reading out said electronic document based on said tag information.

48. The electronic document processing method according to claim 47 wherein the electronic document, added with the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is input to said document inputting step; and

wherein said document read-out step reads said electronic document out by providing pause periods at the beginning positions of said paragraphs, sentences and phrases, based on the tag information specifying said paragraphs, sentences and phrases.

49. The electronic document processing method according to claim 47 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic

document; and

wherein said document read-out step discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

50. The electronic document processing method according to claim 47 wherein the tag information necessary for reading out by said document read-out step is added to said electronic document.

51. The electronic document processing method according to claim 50 wherein the tag information necessary for reading out by said document read-out step includes the attribute information for inhibiting the reading out.

52. The electronic document processing method according to claim 50 wherein the tag information necessary for reading out by said document read-out step includes the attribute information indicating the pronunciation.

53. The electronic document processing method according to claim 47 wherein said document read-out step reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

54. The electronic document processing method according to claim 47 wherein said document read-out step reads out said electronic document with substitution by correct reading or pronunciation.

55. The electronic document processing method according to claim 47 wherein said document read-out step locates in terms of said paragraph, sentence and phrase

making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

56. A recording medium having recorded thereon a computer-controllable electronic document processing program for processing an electronic document, said program comprising:

a document inputting step of being fed with said electronic document of a hierarchical structure having a plurality of elements and having added thereto the tag information indicating its inner structure; and

a document read-out step of speech-synthesizing and reading out said electronic document based on said tag information.

57. An electronic document processing apparatus for processing an electronic document, comprising:

summary text forming means for forming a summary text of said electronic document; and

speech read-out data generating means for generating speech read-out data for reading said electronic document out by a speech synthesizer;

said speech read-out data generating means generating said speech read-out data as the attribute information indicating reading out a portion of said electronic document included in said summary text with emphasis as compared to a portion thereof not included in said summary text.

58. The electronic document processing apparatus according to claim 57 wherein

said attribute information includes the attribute information indicating an increased sound volume in reading out the document portion included in said summary text as compared to the sound volume in reading out the document portion not included in said summary text.

59. The electronic document processing apparatus according to claim 58 wherein said attribute information indicating the increased sound volume is represented by the percentage of the increased volume to the standard volume.

60. The electronic document processing apparatus according to claim 57 wherein said attribute information includes the attribute information for emphasizing the accent in reading the portion of said electronic document included in said summary text.

61. The electronic document processing apparatus according to claim 57 wherein said attribute information includes the attribute information for imparting characteristics of the speech in reading out the portion of the electronic document included in said summary text different from those of the speech in reading out the portion of the electronic document not included in said summary text.

62. The electronic document processing apparatus according to claim 57 wherein said speech read-out data generating means adds the tag information necessary in reading out the electronic document by said speech synthesizer.

63. The electronic document processing apparatus according to claim 57 wherein said summary text forming means sets the size of a summary text display area in

which said summary text of the electronic document is displayed;  
the length of said summary text of the electronic document is determined  
responsive to the size of the summary text display area as set; and  
wherein a summary text of a length to be comprised in said summary text  
display area is formed based on the length of the summary text as determined.

64. The electronic document processing apparatus according to claim 57 wherein  
the tag information indicating the inner structure of said electronic document of a  
hierarchical structure having a plurality of elements is added to said electronic  
document.

65. The electronic document processing apparatus according to claim 64 wherein  
the tag information indicating at least paragraphs, sentences and phrases, among a  
plurality of elements making up the electronic document is added to the electronic  
document; and

wherein said speech read-out data generating means discriminates the  
paragraphs, sentences and phrases making up the electronic document based on the  
tag information indicating said paragraphs, sentences and phrases.

66. The electronic document processing apparatus according to claim 64 wherein  
the tag information necessary for reading out by said speech synthesizer is added to  
said electronic document.

67. The electronic document processing apparatus according to claim 66 wherein  
the tag information necessary for reading out by said speech synthesizer includes the

attribute information for inhibiting the reading out.

68. The electronic document processing apparatus according to claim 66 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.

69. The electronic document processing apparatus according to claim 57 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.

70. The electronic document processing apparatus according to claim 57 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences and phrases making up the electronic document to generate said speech read-out data.

71. The electronic document processing apparatus according to claim 70 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating means unifies said attribute information appearing in succession into one attribute information.

72. The electronic document processing apparatus according to claim 70 wherein said speech read-out data generating means adds to said electronic document the

attribute information indicating provision of said pause period to said electronic document directly before the attribute information specifying the beginning positions of said paragraph, sentence and phrase, to generate said speech read-out data.

73. The electronic document processing apparatus according to claim 57 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating the read-out inhibited portion of said electronic document to generate said speech read-out data.

74. The electronic document processing apparatus according to claim 57 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating correct reading or pronunciation to generate said speech read-out data.

75. The electronic document processing apparatus according to claim 57 further comprising:

processing means for performing processing suited to a speech synthesizer using said speech read-out data;

said processing means finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the read-out sound volume.

76. The electronic document processing apparatus according to claim 57 further comprising:

processing means for performing processing suited to a speech synthesizer

using said speech read-out data;

said processing means finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the language with which said electronic document is formed.

77. The electronic document processing apparatus according to claim 57 further comprising:

document read-out means for reading said electronic document out based on said speech read-out data.

78. The electronic document processing method according to claim 77 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

79. An electronic document processing apparatus for processing an electronic document, comprising:

a summary text forming step of forming a summary text of said electronic document; and

a speech read-out data generating step of generating speech read-out data for reading said electronic document out by a speech synthesizer;

said speech read-out data generating step generating said speech read-out data as the attribute information indicating reading out a portion of said electronic document included in said summary text with emphasis as compared to a portion

thereof not included in said summary text.

80. The electronic document processing method according to claim 79 wherein said attribute information includes the attribute information indicating an increased sound volume in reading out the document portion included in said summary text as compared to the sound volume in reading out the document portion not included in said summary text.

81. The electronic document processing method according to claim 80 wherein said attribute information indicating the increased sound volume is represented by the percentage of the increased volume to the standard volume.

82. The electronic document processing method according to claim 79 wherein said attribute information includes the attribute information for emphasizing the accent in reading the portion of said electronic document included in said summary text.

83. The electronic document processing method according to claim 79 wherein said attribute information includes the attribute information for imparting characteristics of the speech in reading out the portion of the electronic document included in said summary text different from those of the speech in reading out the portion of the electronic document not included in said summary text.

84. The electronic document processing method according to claim 79 wherein said speech read-out data generating step adds the tag information necessary in reading out the electronic document by said speech synthesizer.

85. The electronic document processing method according to claim 79 wherein said

summary text forming step sets the size of a summary text display area in which said summary text of the electronic document is displayed;

the length of said summary text of the electronic document is determined responsive to the size of the summary text display area as set; and

wherein a summary text of a length to be comprised in said summary text display area is formed based on the length of the summary text as determined.

86. The electronic document processing method according to claim 79 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

87. The electronic document processing method according to claim 86 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said speech read-out data generating step discriminating the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

88. The electronic document processing method according to claim 86 wherein the tag information necessary for reading out by said speech synthesizer is added to said electronic document.

89. The electronic document processing method according to claim 88 wherein the

tag information necessary for reading out by said speech synthesizer includes the attribute information for inhibiting the reading out.

90. The electronic document processing method according to claim 88 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.

91. The electronic document processing method according to claim 79 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.

92. The electronic document processing method according to claim 79 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences and phrases making up the electronic document to generate said speech read-out data.

93. The electronic document processing method according to claim 92 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating step unifies said attribute information appearing in succession into one attribute information.

94. The electronic document processing method according to claim 92 wherein said speech read-out data generating step adds to said electronic document the attribute

information indicating provision of said pause period to said electronic document directly before the attribute information specifying the beginning positions of said paragraph, sentence and phrase, to generate said speech read-out data.

95. The electronic document processing method according to claim 79 wherein said speech read-out data generating step adds to said electronic document the attribute information indicating the read-out inhibited portion of said electronic document to generate said speech read-out data.

96. The electronic document processing method according to claim 79 wherein said speech read-out data generating step adds to said electronic document the attribute information indicating correct reading or pronunciation to generate said speech read-out data.

97. The electronic document processing method according to claim 79 further comprising:

a processing step of performing processing suited to a speech synthesizer using said speech read-out data;

said processing step finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the read-out sound volume.

98. The electronic document processing method according to claim 79 further comprising:

a processing step of performing processing suited to a speech synthesizer

using said speech read-out data;

said processing step finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the language with which said electronic document is formed.

99. / The electronic document processing method according to claim 79 further comprising:

a document read-out step of reading said electronic document out based on said speech read-out data.

100. The electronic document processing method according to claim 99 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

101. A recording program having recorded thereon a computer-controllable program for processing an electronic document, said program comprising:

a summary text forming step of forming a summary text of said electronic document; and

a speech read-out data generating step of generating speech read-out data for reading said electronic document out by a speech synthesizer;

said speech read-out data generating step generating said speech read-out data as the attribute information indicating reading out a portion of said electronic document included in said summary text with emphasis as compared to a portion

thereof not included in said summary text.

102. An electronic document processing apparatus for processing an electronic document, comprising:

summary text forming means for preparing a summary text of said electronic document; and

document read-out means for reading out a portion of said electronic document included in said summary text with emphasis as compared to a portion thereof not included in said summary text.

103. The electronic document processing apparatus according to claim 102 wherein said document read-out means reads out said electronic document with a sound volume in reading out a portion of said electronic document included in said summary text which is increased as compared to that in reading out a portion of said electronic document not included in said summary text.

104. The electronic document processing apparatus according to claim 102 wherein said document read-out means reads out said electronic document with an emphasis in accentuation in reading out a portion of said electronic document included in said summary text.

105. The electronic document processing apparatus according to claim 102 wherein said document read-out means reads out the portion of the electronic document included in said summary text with speech characteristics different from those in reading out the portion of the electronic document not included in said summary

text.

106. The electronic document processing apparatus according to claim 102 wherein said summary text forming means sets the size of a summary text display area in which said summary text of the electronic document is displayed;

the length of said summary text of the electronic document is determined responsive to the size of the summary text display area as set; and

wherein a summary text of a length to be comprised in said summary text display area is formed based on the length of the summary text as determined.

107. The electronic document processing apparatus according to claim 102 further comprising:

document inputting means for being fed with said electronic document of a hierarchical structure having a plurality of elements and having added thereto the tag information indicating its inner structure.

108. The electronic document processing apparatus according to claim 107 wherein the electronic document, added with the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is input to said document inputting means; and

wherein said document read-out means reads said electronic document out by providing pause periods at the beginning positions of said paragraphs, sentences and phrases, based on the tag information specifying said paragraphs, sentences and phrases.

109. The electronic document processing apparatus according to claim 107 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said document read-out means discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

110. The electronic document processing apparatus according to claim 107 wherein the tag information necessary for reading out by said document read-out means is added to said electronic document.

111. The electronic document processing apparatus according to claim 110 wherein the tag information necessary for reading out by said document read-out means includes the attribute information for inhibiting the reading out.

112. The electronic document processing apparatus according to claim 110 wherein the tag information necessary for reading out by said document read-out means includes the attribute information indicating the pronunciation.

113. The electronic document processing apparatus according to claim 102 wherein said document read-out means reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

114. The electronic document processing apparatus according to claim 102 wherein said document read-out means reads out said electronic document with substitution

by correct reading or pronunciation.

115. The electronic document processing apparatus according to claim 107 wherein said document read-out means locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

116. An electronic document processing method for processing an electronic document, comprising:

a summary text forming step for forming a summary text of said electronic document; and

a document read out step of reading out a portion of said electronic document included in said summary text with emphasis as compared to the portion thereof not included in said summary text.

117. The electronic document processing method according to claim 116 wherein in said document read out step, the electronic document is read out with a sound volume for a portion of the electronic document included in the summary text which is increased as compared to that for a portion of the electronic document not included in the summary text.

118. The electronic document processing method according to claim 116 wherein said document read-out step reads out said electronic document with an emphasis in accentuation in reading out a portion of said electronic document included in said

summary text.

119. The electronic document processing method according to claim 116 wherein said document read-out step reads out the portion of the electronic document included in said summary text with speech characteristics different from those in reading out the portion of the electronic document not included in said summary text.

120. The electronic document processing method according to claim 116 wherein said summary text forming step sets the size of a summary text display area in which said summary text of the electronic document is displayed;

the length of said summary text of the electronic document is determined responsive to the size of the summary text display area as set; and

wherein a summary text of a length to be comprised in said summary text display area is formed based on the length of the summary text as determined.

121. The electronic document processing method according to claim 116 further comprising:

a document inputting step of being fed with said electronic document of a hierarchical structure having a plurality of elements and having added thereto the tag information indicating its inner structure.

122. The electronic document processing method according to claim 121 wherein the electronic document, added with the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the

electronic document, is input to said document inputting step; and  
wherein said document read-out step reads said electronic document out by providing pause periods at the beginning positions of said paragraphs, sentences and phrases, based on the tag information specifying said paragraphs, sentences and phrases.

123. The electronic document processing method according to claim 121 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said document read-out step discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

124. The electronic document processing method according to claim 121 wherein the tag information necessary for reading out by said document read-out step is added to said electronic document.

125. The electronic document processing method according to claim 124 wherein the tag information necessary for reading out by said document read-out step includes the attribute information for inhibiting the reading out.

126. The electronic document processing method according to claim 124 wherein the tag information necessary for reading out by said document read-out step includes the attribute information indicating the pronunciation.

127. The electronic document processing method according to claim 116 wherein said document read-out step reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

128. The electronic document processing method according to claim 116 wherein said document read-out step reads out said electronic document with substitution by correct reading or pronunciation.

129. The electronic document processing method according to claim 121 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

130. A recording medium having recorded thereon a computer-controllable electronic document processing program for processing an electronic document, said program comprising:

a summary text forming step for forming a summary text of said electronic document; and

a document read out step of reading out a portion of said electronic document included in said summary text with emphasis as compared to the portion thereof not included in said summary text.

131. An electronic document processing apparatus for processing an electronic document comprising:

detection means for detecting beginning positions of at least two of the

paragraph, sentence and phrase among plural elements making up said electronic document; and

speech read-out data generating means for reading said electronic document out by said speech synthesizer by adding to said electronic document speech read-out data the attribute information indicating providing respective different pause periods at beginning positions of at least two of the paragraph, sentence and phrase based on detected results obtained by said detection means.

132. The electronic document processing apparatus according to claim 131 wherein the one of said pause periods provided at the beginning position of each paragraph is longest, with the pause periods at the beginning positions of said sentence and phrase being shorter in this sequence.

133. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds the tag information necessary in reading out said electronic document out by said speech synthesizer to said electronic document.

134. The electronic document processing apparatus according to claim 131 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

135. The electronic document processing apparatus according to claim 134 wherein the tag information indicating at least paragraphs, sentences and phrases, among a

plurality of elements making up the electronic document, is added to the electronic document; and

wherein said detection means discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

136. The electronic document processing apparatus according to claim 134 wherein the tag information necessary for reading out by said speech synthesizer is added to said electronic document.

137. The electronic document processing apparatus according to claim 136 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information for inhibiting the reading out.

138. The electronic document processing apparatus according to claim 136 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.

139. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.

140. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences

and phrases making up the electronic document to generate said speech read-out data.

141. The electronic document processing apparatus according to claim 140 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating means unifies said attribute information appearing in succession into one attribute information.

142. The electronic document processing apparatus according to claim 140 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating provision of said pause period to said electronic document directly before the attribute information specifying the beginning positions of said paragraph, sentence and phrase, to generate said speech read-out data.

143. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating the read-out inhibited portion of said electronic document to generate said speech read-out data.

144. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating correct reading or pronunciation to generate said speech read-out data.

145. The electronic document processing apparatus according to claim 131 wherein said speech read-out data generating means adds to said electronic document the attribute information indicating the read-out sound volume to generate said speech read-out data.

146. The electronic document processing apparatus according to claim 131 further comprising:

processing means for performing processing suited to a speech synthesizer using said speech read-out data;

said processing means selecting the speech synthesizer based on the attribute information added to said speech read-out file for specifying the language with which said electronic document is formed.

147. The electronic document processing method according to claim 131 further comprising:

processing means for performing processing suited to a speech synthesizer using said speech read-out data;

said processing means finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the sound volume added to said speech read-out data.

148. The electronic document processing method according to claim 131 further comprising:

document read-out means for reading said electronic document out based on

said speech read-out data.

149. The electronic document processing method according to claim 148 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

150. An electronic document processing method for processing an electronic document comprising:

a detection step of detecting beginning positions of at least two of the paragraph, sentence and phrase among plural elements making up said electronic document; and

a speech read-out data generating step of reading said electronic document out by said speech synthesizer by adding to said electronic document speech read-out data the attribute information indicating providing respective different pause periods at beginning positions of at least two of the paragraph, sentence and phrase based on detected results obtained by said detection means.

151. The electronic document processing method according to claim 150 wherein the one of said pause periods provided at the beginning position of each paragraph is longest, with the pause periods at the beginning positions of said sentence and phrase being shorter in this sequence.

152. The electronic document processing method according to claim 150 wherein said speech read-out data generating step adds the tag information necessary in

reading out said electronic document out by said speech synthesizer.

153. The electronic document processing method according to claim 150 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

154. The electronic document processing method according to claim 153 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said detection step discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

155. The electronic document processing method according to claim 153 wherein the tag information necessary for reading out by said speech synthesizer is added to said electronic document.

156. The electronic document processing method according to claim 155 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information for inhibiting the reading out.

157. The electronic document processing method according to claim 155 wherein the tag information necessary for reading out by said speech synthesizer includes the attribute information indicating the pronunciation.

158. The electronic document processing method according to claim 150 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the language with which the electronic document is formed to generate said speech read-out data.

159. The electronic document processing method according to claim 150 wherein said speech read-out data generating step adds to said electronic document the attribute information specifying the beginning positions of the paragraphs, sentences and phrases making up the electronic document to generate said speech read-out data.

160. The electronic document processing method according to claim 159 wherein if the attribute information representing a homologous syntactic structure among the attribute information specifying the beginning positions of the paragraphs, sentences and phrases appear in succession in said electronic document, said speech read-out data generating step unifies said attribute information appearing in succession into one attribute information.

161. The electronic document processing method according to claim 159 wherein said speech read-out data generating step adds to said electronic document the attribute information indicating provision of said pause period to said electronic document directly before the attribute information specifying the beginning positions of said paragraph, sentence and phrase, to generate said speech read-out data.

162. The electronic document processing method according to claim 150 wherein

said speech read-out data generating step adds to said electronic document the attribute information indicating the read-out inhibited portion of said electronic document to generate said speech read-out data.

163. The electronic document processing method according to claim 150 wherein said speech read-out data generating step adds to said electronic document the attribute information indicating correct reading or pronunciation to generate said speech read-out data.

164. The electronic document processing method according to claim 150 wherein said speech read-out data generating step adds to said electronic document the attribute information indicating the read-out sound volume to generate said speech read-out data.

165. The electronic document processing method according to claim 150 further comprising:

a processing step for performing processing suited to a speech synthesizer using said speech read-out data;

said processing step selecting the speech synthesizer based on the attribute information added to said speech read-out file for specifying the language with which said electronic document is formed.

166. The electronic document processing method according to claim 150 further comprising:

a processing step for performing processing suited to a speech synthesizer

using said speech read-out data;

said processing step finding an absolute value of the read-out sound volume based on the attribute information added to said speech read-out data for indicating the sound volume added to said speech read-out data.

167. The electronic document processing method according to claim 150 further comprising:

a document read-out step for reading said electronic document out based on said speech read-out data.

168. The electronic document processing method according to claim 167 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

169. A recording medium having recorded thereon a computer-controllable electronic document processing program for processing an electronic document, said program comprising:

a detection step of detecting beginning positions of at least two of the paragraph, sentence and phrase among plural elements making up said electronic document; and

a step of generating speech read-out data for reading out in a speech synthesizer by adding to the electronic document the attribute information indicating providing respective different pause periods at beginning positions of at least two of

the paragraph, sentence and phrase.

170. An electronic document processing apparatus for processing an electronic document comprising:

detection means for detecting beginning positions of at least two of the paragraph, sentence and phrase among plural elements making up said electronic document; and

document read out means for speech-synthesizing and reading out said electronic document by providing respective different pause periods at beginning positions of at least two of the paragraph, sentence and phrase, based on the result of detection by said detection means.

171. The electronic document processing apparatus according to claim 170 wherein the one of said pause periods provided at the beginning position of each paragraph is longest, with the pause periods at the beginning positions of said sentence and phrase being shorter in this sequence.

172. The electronic document processing apparatus according to claim 170 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

173. The electronic document processing apparatus according to claim 172 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic

document; and

wherein said detection means discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

174. The electronic document processing apparatus according to claim 172 wherein the tag information necessary for reading out by said document read-out means is added to said electronic document.

175. The electronic document processing apparatus according to claim 174 wherein the tag information necessary for reading out by said document read-out means includes the attribute information for inhibiting the reading out by said read-out means.

176. The electronic document processing apparatus according to claim 174 wherein the tag information necessary for reading out by said document read-out means includes the attribute information indicating the pronunciation.

177. The electronic document processing apparatus according to claim 170 wherein said document read-out means reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

178. The electronic document processing apparatus according to claim 170 wherein said document read-out means reads out said electronic document with substitution by correct reading or pronunciation.

179. The electronic document processing apparatus according to claim 172 wherein

said document read-out means locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

180. An electronic document processing method for processing an electronic document comprising:

a detection step for detecting beginning positions of at least two of the paragraph, sentence and phrase among plural elements making up said electronic document; and

a document read out step for speech-synthesizing and reading out said electronic document by providing respective different pause periods at beginning positions of at least two of the paragraph, sentence and phrase, based on the result of detection by said detection step.

181. The electronic document processing method according to claim 180 wherein the one of said pause periods provided at the beginning position of each paragraph is longest, with the pause periods at the beginning positions of said sentence and phrase being shorter in this sequence.

182. The electronic document processing method according to claim 180 wherein the tag information indicating the inner structure of said electronic document of a hierarchical structure having a plurality of elements is added to said electronic document.

183. The electronic document processing method according to claim 182 wherein the tag information indicating at least paragraphs, sentences and phrases, among a plurality of elements making up the electronic document, is added to the electronic document; and

wherein said detection step discriminates the paragraphs, sentences and phrases making up the electronic document based on the tag information indicating said paragraphs, sentences and phrases.

184. The electronic document processing method according to claim 182 wherein the tag information necessary for reading out by said document read-out step is added to said electronic document.

185. The electronic document processing method according to claim 184 wherein the tag information necessary for reading out by said document read-out step includes the attribute information for inhibiting the reading out by said read-out step.

186. The electronic document processing method according to claim 184 wherein the tag information necessary for reading out by said document read-out step includes the attribute information indicating the pronunciation.

187. The electronic document processing method according to claim 180 wherein said document read-out step reads out said electronic document as a read-out inhibited portion of said electronic document is excepted.

188. The electronic document processing method according to claim 180 wherein said document read-out step reads out said electronic document with substitution by

correct reading or pronunciation.

189. The electronic document processing method according to claim 182 wherein said document read-out step locates in terms of said paragraph, sentence and phrase making up said electronic document as unit, based on the attribute information specifying the beginning position of said paragraph, sentence and phrase.

190. A recording medium having recorded thereon a computer-controllable electronic document processing program for processing an electronic document, said program comprising:

a detection step for detecting beginning positions of at least two of the paragraph, sentence and phrase among plural elements making up said electronic document; and

a document read out step for speech-synthesizing and reading out said electronic document by providing respective different pause periods at beginning positions of at least two of the paragraph, sentence and phrase, based on the result of detection by said detection step.